CERTIFICATION OF LABORATORIES*

SCOPE OF METHODS USED—LIST OF CALIFORNIA LABORATORIES NOW CERTIFIED

By W. H. KELLOGG, M. D.
Berkeley

IT is now five years since the State Board of Health authorized the director of the State Hygienic Laboratory to proceed with the inauguration of a system of inspection and certification of diagnostic laboratories, both public and private, or governmental and commercial.

CALIFORNIA METHOD OF VOLUNTARY CERTIFICATION

In the absence of any law specifically authorizing such work the scheme was entirely voluntary on the part of the laboratories participating. It is true that the board possibly has authority, under Section 2979a of the Political Code, to inquire into the diagnosis of communicable disease by laboratories. Since this authority would be subject to court rulings, it seemed to the board that a voluntary plan might possibly accomplish as much, or more, than a specific law on the subject.

The improvement of laboratory service is a regular consequence of better understanding on the part of physicians in general of the shortcomings of the laboratory service at their disposal. Those members of the profession who are engaged in laboratory diagnosis know only too well to what extent their nonlaboratory colleagues are at the mercy of incompetent laboratorians. No restriction whatever has been placed on the establishment of a diagnostic laboratory. Any layman who by reason of a brief sojourn in some type of laboratory considers himself or herself a skilled technician, may set up a laboratory.

Many laboratories of questionable worth have sprung up and are receiving the support of the medical profession. Board of Health laboratories are sometimes in the hands of technicians appointed for political reasons, rather than personal ability.

As director of the Bureau of Communicable Diseases, including the Hygienic Laboratory of the State Department of Health, the writer has been in a peculiarly favorable position to observe the alarming extent of incompetent laboratory service in California. That long and careful preparation is needed by technicians is not appreciated by many physicians. This is evidenced by the large number of office nurses who are running laboratories in a corner of the office of their employers. Occasionally I receive a request from a physician that I take his office girl into the laboratory for a couple of weeks in order that she may learn to do Wassermann tests, etc. These men do not think, or they would realize that, while a Wassermann test may be taught mechanically in a couple of weeks, the principles of immunology involved cannot possibly be understood. The technician will be as competent in serology as the untrained and ignorant midwife would be in the presence of a serious case of dystocia. A competent laboratorian requires as much preparation in the basic sciences as does the practitioner in any other specialty of medicine. It was this knowledge of the laboratory situation that brought about the inauguration of the system of approval of laboratories. The certificate of approval displayed by certain laboratories, or its absence from the walls of others, has undoubtedly had a favorable and educational influence with physicians.

DETERMINATION OF ELIGIBILITY FOR APPROVAL

The method pursued to determine whether or not a laboratory shall be approved is of interest and will be briefly described.

In signing an application for approval the director of the laboratory agrees to keep a system of records that permits of the ready finding of any specimen and its correlation with the report, the physician and the case. Financial records are not inquired into. The laboratory agrees to retain and file for a definite period all diagnostic slides, both positive and negative. It is also agreed that check specimens from the state laboratory will be examined and reported from time to time, and that the laboratory shall be open for inspection by representatives of the state department during business hours. Before the certificate of approval is issued, an inspection of the laboratory is made and the physical equipment checked up. The qualifications of the director are inquired into, not by examination, but by interview and consideration of his education and experience. The methods used in the laboratory must be satisfactory, but not necessarily the same as those used in the state laboratory. The certificate issued sets forth the particular examinations that appear to be performed satisfactorily in the laboratory, and tests not mentioned on the certificate are either not done in that laboratory, or are not done satisfactorily, or are not tests that come within the scope of our inquiry. This latter group includes the strictly clinical laboratory procedures that have no bearing on the public health, such as tissue work, blood chemistry, etc.

One requirement rigidly insisted upon in the approval of laboratories is that the director of the laboratory, if not the owner (in the case of a private laboratory), shall have absolute control of all technical matters; such as the methods of examination and the decision as to what examinations shall be undertaken.

The management of laboratories by nonmedical men is deprecated by the board, although in the beginning a few private laboratories owned by laymen and run by their owners were approved. The board recognizes a difference in this regard between private and official or Health Department laboratories. In the latter, when a lay technician is in charge, the health officer is regarded as the responsible head, although the principle of nominal supervision by a medical man not especially experienced in laboratory work would not be regarded as satisfactory in the case of a private laboratory. However, the more limited field

* Read before the Section on Pathology and Bacteriology of the California Medical Association at its Fifty-Seventh Annual Session, April 30 to May 3, 1928.

of the public health laboratory and the more standardized character of the examinations plus the fact that doctors for such positions are scarce, justifies the ruling in this instance. But with commercial laboratories the ownership of the business by lay individuals or by a corporation and its management by laymen, with physicians occupying a subordinate position in the organization, is regarded by the board as undesirable, and approval ordinarily is not accorded such laboratories.

THE NEW LAW REGULATING LABORATORIES

The state legislature in 1927 passed an act requiring that all laboratories which are a part of the organization of county or city health departments must be approved by the State Board of Health. For the enforcement of this act the board has added to the regulations heretofore applying to all approved laboratories, both public and private, an additional regulation applying only to city or county laboratories. This new requirement is that each member of the staff of such laboratories, excepting student apprentices, must hold the certificate of proficiency in bacteriology or in serology, junior or senior grade. These certificates are issued to those who have demonstrated by examination that they are competent for the work.

EXAMINATION OF TECHNICIANS

The following is taken from the announcement of the last examination, and is reproduced here because it gives the scope of these tests:

"Notice is given that an examination of applicants for the certificate of proficiency in bacteriology and serology (senior grade and junior grade) will be held in Los Angeles and in Berkeley on May 19, 1928. Examinations will be held in Room 4 of the Hygiene and Pathology building on the university campus at Berkeley, and in the Los Angeles County Civil Service rooms, Hall of Records, Los Angeles.

"The subjects of the examination and the relative weights of the subjects on a scale of one hundred are: General Knowledge of Subject 50; Relative Capacity 16 2/3; Experience 33 1/3.

"The item 'General Knowledge of Subject' will cover questions relating to knowledge of principles and practice of bacteriology or serology, as the case may be, particularly as applied in a public health laboratory.

"The subject 'Relative Capacity' will include personality and general education, and will be based on a personal interview and the evidence presented by the paper.

"The subject 'Experience' will be rated as follows: seven years' first-class experience had within the last ten years in the field covered by the certificate in view, 100 credits; six years, 90; five years, 80; four years, 70; three years, 60; two years, 50; one year, 40. Deductions will be made when, in the judgment of the board, the experience claimed is not first-class. The degree M. D. from a recognized institution is equivalent to seven years' first-class experience. The degree D. P. H. or Dr. Ph. D. from a recognized institution, but unaccompanied by the M. D., is equivalent to three years' first-class experience. The degree A. B. or B. S. with a major in bacteriology or public health and in addition a course in public health bacteriology, both institution and course being approved for this purpose by the board, together with a period of practical experience of not less than three months in a public health laboratory specifically approved for this purpose, will entitle the applicant to credit equivalent to seven years' first-class experience. The degree A. B. or B. S. with a major in bacteriology, but without the special course and internship described in the preceding paragraph, will be equivalent to two years' experience.

"Those who make a passing grade, but do not give evidence of qualifications necessary for the responsibility of running a laboratory alone, will be given the junior grade certificate, entitling them to work under supervision only.

"Holders of junior grade certificates may present themselves at any regular examination and try for the senior certificate.

"Every public health laboratory must have at least one person on the staff who is in possession of the senior certificate.

"Separate examinations are given for and separate certificates issued for work in serology and work in bacteriology.

"Each type of certificate entitles the holder to engage in the line of work covered by that certificate only.

"Technicians in private laboratories are not required to hold these certificates.

"Application blanks may be had by applying to any of the administration offices of the State Department of Health (Sacramento, Forum Building; San Francisco, State Building, Civic Center; Los Angeles, 821 Sun-Finance Building). Application blanks must be accompanied by evidence substantiating claims as to experience, degrees, special courses, etc."

The policy is to ask questions in the written test that are eminently fair and practical and such that anyone who is reasonably well qualified will have no difficulty in answering.

The result so far has shown the value of a formal examination in the selection of laboratory workers and the response to the announcement of the second examination shows increasing interest on the part of both assistants and employers. The directors of some private laboratories are sending their employees for the examination and in some cases have qualified for the certificates themselves.

LIST OF APPROVED LABORATORIES IN CALIFORNIA

Following is a list of the approved laboratories as it stands at the time this is written:

Governmental—Cities: Alameda, Berkeley, Eureka, Glendale, Long Beach, Los Angeles, Oakland, Palo Alto, Pasadena, Richmond, Riverside, Sacramento, San Francisco, Santa Barbara, Santa Cruz. Counties: Kern, Los Angeles (Central, and branches at Alhambra, Compton, Pomona, Monrovia, Redondo, Whittier, San Fernando, Santa Monica, Belvedere,

and Glendale); Monterey, Orange, San Bernardino, San Luis Obispo; San Joaquin local health district.

Private Laboratories—Dr. Mona Bettin, Los Angeles; Drs. Brem, Zeiler and Hammack, Los Angeles; Drs. Butka and Pratt; Dr. John Chain, Eureka; Drs. Frey and MacKnight, Los Angeles; Drs. Holliger and Sheldon, Stockton; Frank Kolos, San Francisco; Dr. Marian Lippman, San Francisco; Fred I. Lackenbach (Lippman), San Francisco; Ruth Lane, Bakersfield; Mabel Little, Oakland; Dr. Bessie Martell, Santa Ana; Drs. Oliver and Knapp, San Francisco; Drs. O'Reilly and Wheeler, San Francisco; Dr. Rawson Pickard, San Diego; W. W. Reich, Ph.D., Oakland and Berkeley; Dr. E. H. Ruediger, Hollywood; Dr. Gustav Ruediger, Pasadena; Dr. J. R. Snyder, Sacramento; Edward I. Sugarman, San Francisco; Dr. A. H. Thompson, San Diego; Dr. E. Victors, San Francisco; Western Laboratories (Dr. G. Moore), Oakland; Ella C. Weston, Santa Barbara.

Hospitals and Clinics—Highland Hospital, Oakland; Santa Maria Hospital, Santa Maria; Alameda County Health Center, Oakland; Children's Hospital, San Francisco; Glendale Sanitarium, Glendale; Johnston Wickett Clinic, Anaheim; Mills Memorial Hospital, San Mateo; Moore-White Clinic, Los Angeles; Rideout Hospital, Marysville; San Joaquin General Hospital, French Camp; St. Luke's Hospital, San Francisco; Santa Barbara Cottage Hospital, Santa Barbara; Santa Rosa Clinic, Santa Rosa; Stanford University Hospital, San Francisco; Sutter Hospital, Sacramento; White Memorial Hospital, Los Angeles; Woodland Clinic, Woodland; Santa Barbara Clinic, Santa Barbara; Southern Pacific General Hospital, San Francisco; Peralta Hospital, Oakland; French Hospital, San Francisco.

When the certification of laboratories was first begun, approval was offered to a few representative hospitals and private laboratories in addition to the governmental ones. Since then no effort has been made to expand the list, but applications for approval have been received and acted upon.

There are still excellent laboratories, principally among the hospitals that have not applied for inspection.

Both the certification of laboratories and the licensing of technicians is limited at present to public health laboratory fields; that is, to the bacteriology and serology of the communicable diseases.

Hygiene-Pathology Building, University of California.

BOTANICAL SURVEY OF SAN FRANCISCO

By ALBERT H. ROWE, M. D.
Oakland

THIS survey of San Francisco has been prepared in order to facilitate the diagnosis and treatment of patients living in that city, who suffer with hay fever, asthma, or eczema, due to pollen sensitization. The survey is based on data obtained by two botanists, Miss Weisendanger in 1926 and Mrs. L. Dempster in 1927, and on my own personal observations during the last ten years. The data as tabulated indicate relative amounts of the various species in separate districts of the city, and the months of pollination. I am indebted especially to Professor Hall, who

GROUP 1.—*Trees*

SCIENTIFIC NAME	COMMON NAME	DURATION OF POLLINATION
Betulaceae		
Betula alba	Birch	February and March
Cypressaceae	(Cypress Family)	
Cypresses marcocarpa	Monterey Cypress	
Fagaceae	(Oak Family)	
Castanea chrysophylla	Giant Chinquapin	June, July and August
Fagus sylvatica	Beech	March and April
Quercus densiflora	Tanbark Oak	March and April
Quercus agrifolia	Coast Live Oak	March and April
Juglandaceae		
Juglans californica	Cal. Black Walnut	April and May
Juglans nigra	Eastern Black Walnut	April and May
Juglans regia	English Walnut	April and May
Leguminosae	(Pea Family)	
Acacia spp.		January, February and March
Meliaceae		
Melia azedarach	Umbrella Tree	
Myrtaceae		
Eucalyptus spp.	Gum Tree	May and June
Oleaceae		
Fraxinus ornus	Flowering Ash	May and June
Fraxinus oregona	Oregon Ash	January and February
Platanaceae	(Plane Tree Family)	
Platanus orientalis	Oriental Sycamore	March and April
Pinaceae	(Pine Family)	
Pinus Radiata	Monterey Pine	Year round
Salicaceae		
Populus (several spp.)	Popular Cottonwood	February and March
Tiliaceae		
Tilia americana	Linden	July
Ulmaceae	(Elm Family)	
Ulmus spp.	Elm	January and February

Note.—The most of the above trees are found in considerable number in various parts of Golden Gate Park. Acacia, Oak, Birch and Sycamore predominate. The Pine and various species of Cypress are also very common and are particularly abundant in the Presidio and around Twin Peaks. In other parts of the city, particularly in the western sections, shade trees are occasionally found.